

REMARKS

Entry of this Amendment and reconsideration of the above-identified application in view of the following is respectfully requested

Claims 1-14 are pending and stand rejected.

Claims 1 and 14 are independent claims.

Claim 1 has been amended.

Claims 1, 2, 6, 7, 8 and 10-14 stand rejected under 35 USC 102(e) as being anticipated by Friend (USP no. 6, 429, 601). Claims 3, 4 and 5 stand rejected under 35 USC 103(a) as being unpatentable over Friend in view of Yamazaki (USP no. 6, 326, 941). Claim 9 stands rejected under 35 USC 103(a) as being unpatentable over Friend.

In maintaining the rejection of the claims, the Office Action refers each pulse within a frame (area between elements 36 in Figure 8) as being comparable to a first period and a second period, as is recited in the claims. As asserted by the Office Action, a cycle is interpreted to be a frame and each pulse as a sub-period. In Figure 8, the first pulse would be a first sub-period which contains a non-zero value, then a low power module occurs during a subsequent sub-period and after the low power mode a second pulse is applied which is a non-zero pulse. (see FOA, page 8, section 21). The Office Action further states that the claims fail to recite the absence of "zero" periods but only a first and second sub-period containing a "non-zero" current substantially yielding said overall brightness level.

Applicant thanks the Examiner for providing further insight to the reason for the rejection of the claims.

However, applicant respectfully disagrees with and explicitly traverses the rejection of the claims, but in the interest of advancing the prosecution of this matter has elected to amend the independent claims to further recite the element "wherein said second non-zero current is maintained at a stable level lower than the first non-zero current and said first non-zero current is determined based on a known ratio with respect to said second non-zero current, said second non-zero

current during said second sub-period achieving a brightness that is known percent of a brightness achieved by said first non-zero current in said first sub-period, said at least first and second non-zero current over their respective sub-periods substantially yielding said overall brightness level. " No new matter has been added. Support for the amendment may be found at least in Figure 5 and on page 7, line23-page 8, line 12.

In maintaining the rejection of the claims, the Office Action refers to Figure 8 of Friend for teaching multiple sub-frames within a frame (between boundaries 36) wherein a non-zero current is applied during first and second sub-periods. The Office Action asserts that each pulse within a frame is comparable to a sub-frame recited in the claims.

However, with reference to Figure 8, Friend discloses that the current within each sub-period (as defined by the Office Action) is substantially constant ("Fig. 8 shows a plot of applied current against time for a signal pixel.") and furthermore that the periods of application of the a current are substantially equal ("the on-time of the pixel is applied as a series of pulses of equal length, ... which when added together, give the total on-time per cycle needed to achieve the required duty cycle.").

In addition, Friend discloses that the number of sub-periods is dependent upon the brightness level desired. For example, with regard to Figure 8, Friend illustrates three frames of 1, 2 and 4 pulses (sub-periods). As noted in col. 7, lines 27-29 "[d]uring the three cycles shown in FIG. 8, the brightness of the pixel is increased from around 10% to around 40%."

Hence, in the example provide in FIG. 8, each pulse represents around 10 percent of a brightness level, wherein the first cycle includes a pulse causing 10% brightness and the third cycle 4 pulses (each about 10% brightness) causing 40% brightness.

Friend teaches a system in which a constant current is applied during each sub frame, considering the interpretation of the pulses as being comparable to subframes recited in the claims.

However, Friend fails to disclose the current in a second sub-period is maintained at a stable value lower than that of the first sub-period and that the first current in the first sub-period is determined based on the known ratio of the second current. Nor does Friend disclose that the second non-zero current achieves a brightness that is a known percentage of the brightness achieved by the first non-zero current. Rather, Friend discloses that each pulse (i.e., sub-period) produces a comparable brightness and that the number of pulses determines the brightness level.

A claim is anticipated if and only if each and every element recited in the claims is taught in a single prior art reference.

In this case, Friend fails to disclose all the elements recited in the claims and, hence, cannot be said to anticipate the subject matter recited in the independent claims.

For the above remarks, applicant submits that the reason for the rejection has been overcome and, respectfully requests that the rejection be withdrawn.

With regard to the remaining claims, these claims depend from independent claim 1 and, hence, recite subject matter not disclosed by the Friend.

With regard to the rejection of claims 3, 4 and 5 under 35 USC 103(a) as being unpatentable over Friend in view of Yamazaki, applicant respectfully disagrees with and respectfully traverses the rejection of the claims.

Yamazaki discloses a gradation system for an electro-optical device controlled through a digital circuit. The gradation system uses both variable pulse width and variable voltage to determine a gradation value. Yamazaki discloses that in a conventional 64 level gradation system, gradation may be achieved by a combination of a total of 6 pulses whose width is 1, 2, 4, 8, and 32 and that by varying the pulse height into four steps (levels) 1, 2, 3 and 4, only 3 pulses having pulse width of 1, 4 and 16 need be used. (see col. 4, line 64-col. 5, line 2).

Yamazaki, accordingly, teaches using the pulse width as a factor in transmitting a value and fails to teach that the pulse width is related to a period or sub-period size, as is recited in the claims.

A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations. However, the Court in KSR v. Teleflex (citation omitted) has held that the teaching, suggestion and motivation test (TSM) is merely to be used as a helpful hint in determining obviousness and a bright light application of such a test is adverse to those factors for determining obviousness enumerated in the Graham v. John Deere (i.e., the scope and content of the prior art, the level of ordinary skill in the art, the differences between the claimed invention and the prior art and objective indicia of non-obviousness) (citation omitted).

In this case, the combination of the cited references fails to disclose at least one material element recited in the independent claims and thus, the combination of the cited references cannot be said to render obvious the subject matter recited therein.

With regard to rejection of claim 9, as being unpatentable over Friend, applicant respectfully disagrees and explicitly traverses the rejection of the claim.

Claim 9 depends from claim 1, which has been shown to include subject matter not disclosed by Friend. Accordingly, Friend cannot render obvious the subject matter recited in claim 1, and consequently, claim 9, as Friend fails to disclose a material element recited in the claims.

For the above amendments to the claims and the remarks made herein, applicant submits that the rejection of the claims has been overcome and

respectfully requests that the rejection be withdrawn and a Notice of Allowance be issued.

Applicant denies any statement, position or averment stated in the Office Action that is not specifically addressed by the foregoing. Any rejection and/or points of argument not addressed are moot in view of the presented arguments and no arguments are waived and none of the statements and/or assertions made in the Office Action is conceded.

Applicant makes no statement regarding the patentability of the subject matter recited in the claims prior to this Amendment and has amended the claims solely to facilitate expeditious prosecution of this patent application. Applicant respectfully reserves the right to pursue claims, including the subject matter encompassed by the originally filed claims, as presented prior to this Amendment, and any additional claims in one or more continuing applications during the pendency of the instant application.

In the event the Examiner deems personal contact desirable in the disposition of this case, the Examiner is invited to call the undersigned attorney at the telephone given below.

No fees are believed necessary for filing this paper. However, if any fees are deemed necessary, the Examiner is authorized to charge Deposit Account no.

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Respectfully submitted,
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